MEAN WELL

25W Single Output Switching Power Supply LPF-25 series

TAIWAN EXCELLENCE 2012

Features :

- Universal AC input / Full range (up to 305VAC)
- Protections: Short circuit / Over current / Over voltage / Over temperature
- Built-in active PFC function
- Cooling by free air convection
- Fully isolated plastic case
- Fully encapsulated with IP67 level (Note.6)
- Class II power unit, no FG
- Class 2 power unit
- Suitable for LED lighting and moving sign applications
- Compliance to worldwide safety regulations for lighting
- Suitable for dry / damp / wet locations
- 5 years warranty

SPECIFICATION

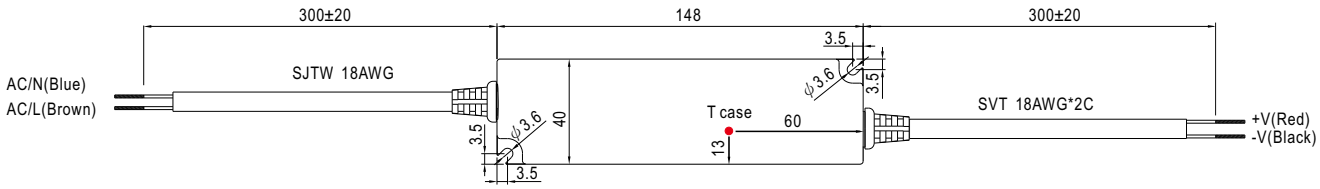
MODEL		LPF-25-12	LPF-25-15	LPF-25-20	LPF-25-24	LPF-25-30	LPF-25-36	LPF-25-42	LPF-25-48	LPF-25-54
OUTPUT	DC VOLTAGE	12V	15V	20V	24V	30V	36V	42V	48V	54V
	CONSTANT CURRENT REGION Note.4	6.6 ~12V	8.25 ~ 15V	11 ~ 20V	13.2 ~ 24V	16.5 ~ 30V	19.8 ~ 36V	23.1 ~ 42V	26.4 ~ 48V	29.7 ~ 54V
	RATED CURRENT	2.1A	1.67A	1.25A	1.05A	0.84A	0.7A	0.6A	0.53A	0.47A
	RATED POWER	25.2W	25.05W	25W	25.2W	25.2W	25.2W	25.2W	25.44W	25.38W
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p	150mVp-p	150mVp-p	200mVp-p	250mVp-p	250mVp-p	250mVp-p	350mVp-p
	VOLTAGE TOLERANCE Note.3	±4.0%	±4.0%	±4.0%	±4.0%	±4.0%	±4.0%	±4.0%	±4.0%	±4.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±2.0%	±1.5%	±1.0%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	SETUP, RISE TIME Note.7	1500ms, 80ms / 115VAC at full load 1500ms, 80ms / 230VAC								
	HOLD UP TIME (Typ.)	16ms at full load 230VAC /115VAC								
INPUT	VOLTAGE RANGE Note.5	90 ~ 305VAC 127 ~ 431VDC								
	FREQUENCY RANGE	47 ~ 63Hz								
	POWER FACTOR (Typ.)	PF>0.97/115VAC, PF>0.95/230VAC, PF>0.92/277VAC at full load (Please refer to "Power Factor Characteristic" curve)								
	EFFICIENCY (Typ.)	84%	85%	86%	86%	86%	86%	86%	87%	86.5%
	AC CURRENT	0.4A / 115VAC 0.25A / 230VAC 0.2A/277VAC								
	INRUSH CURRENT (Typ.)	COLD START 50A(twidth=200μs measured at 50% Ipeak) at 230VAC								
	LEAKAGE CURRENT	<0.75mA / 240VAC								
PROTECTION	OVER CURRENT Note.4	95 ~ 108%								
		Protection type : Constant current limiting, recovers automatically after fault condition is removed								
	SHORT CIRCUIT	Hiccup mode, recovers automatically after fault condition is removed.								
	OVER VOLTAGE	15 ~ 18V	17.5 ~ 21V	23 ~ 27V	28 ~ 35V	34 ~ 40V	41 ~ 49V	46 ~ 54V	54 ~ 63V	59 ~ 66V
		Protection type : Shut down and latch off o/p voltage, re-power on to recover								
	OVER TEMPERATURE	95℃±5℃(TSW1) Detect on U2								
		Protection type :Shut down o/p voltage, recovers automatically after temperature goes down								
ENVIRONMENT	WORKING TEMP.	-35 ~ +70℃ (Refer to "Derating Curve")								
	WORKING HUMIDITY	20 ~ 95% RH non-condensing								
	STORAGE TEMP., HUMIDITY	-40 ~ +80℃, 10 ~ 95% RH								
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 50℃)								
	VIBRATION	10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes								
SAFETY & EMC	SAFETY STANDARDS Note.6	UL8750, CSA C22.2 No. 250.0-08,EN61347-1, EN61347-2-13 independent, EN62384,J61347-1, J61347-2-13 approved, IP67 approved ;Design refer to UL60950-1, TUV EN60950-1								
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC								
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25℃/ 70% RH								
	EMC EMISSION	Compliance to EN55015; EN61000-3-2 Class C (≧50% load) ; EN61000-3-3								
	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; EN61547,light industry level(surge 2KV), criteria A								
OTHERS	MTBF	473.4Khrs min. MIL-HDBK-217F (25℃)								
	DIMENSION	148*40*32mm (L*W*H)								
	PACKING	0.36Kg; 40pcs/ 15.4Kg/1.02CUFT								

NOTE

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. Constant current operation region is within 50% ~100% rated output voltage. This is the suitable operation region for LED related applications, but please reconfirm special electrical requirements for some specific system design.
5. Derating may be needed under low input voltages. Please check the static characteristics for more details.
6. Suitable for indoor use or outdoor use without direct sunlight explosure.Please avoid immerse in the water over 30 minutes.
7. Length of set up time is measured at cold first start. Turning ON/OFF the power supply may lead to increase of the set up time.
8. The power supply is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.

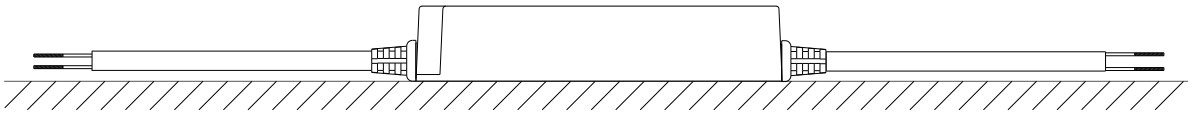
■ Mechanical Specification

Case No.: LPF-16A Unit:mm



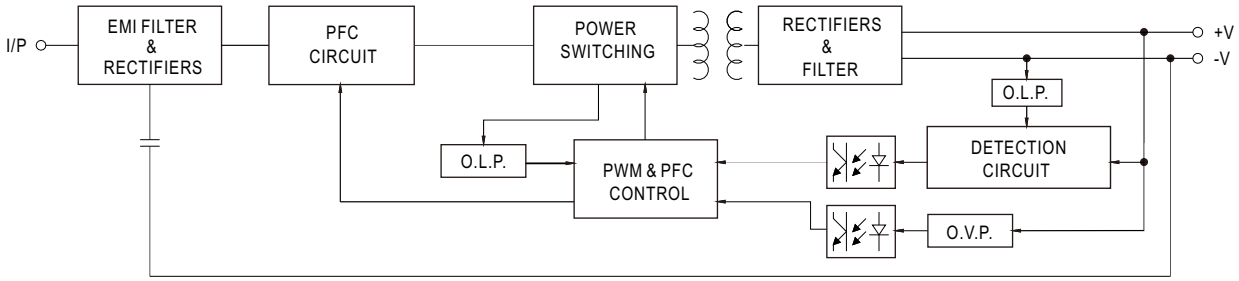
※ T case: Max. Case Temperature.

■ Recommend Mounting Direction

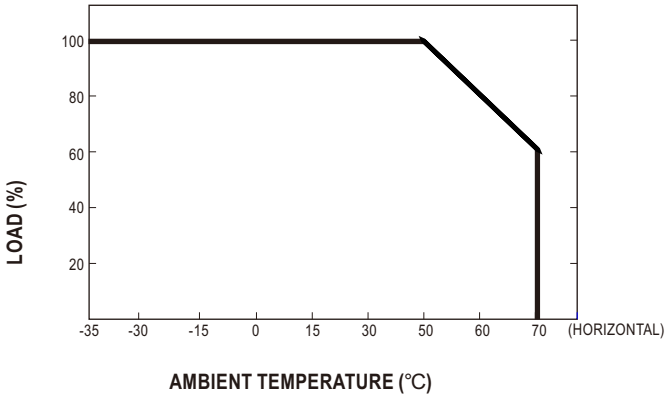


■ Block Diagram

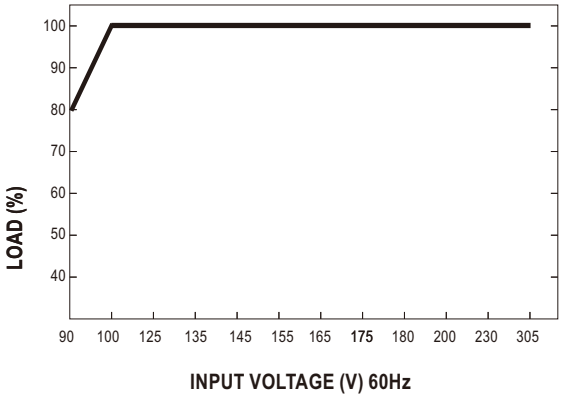
Fosc : 100KHz



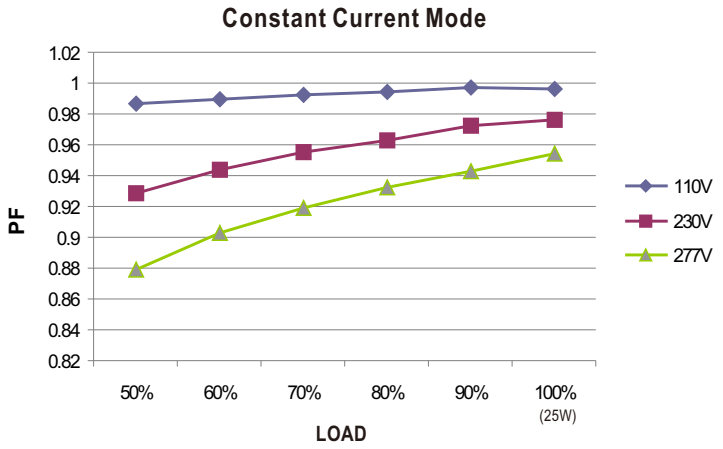
■ Derating Curve



■ Static Characteristics

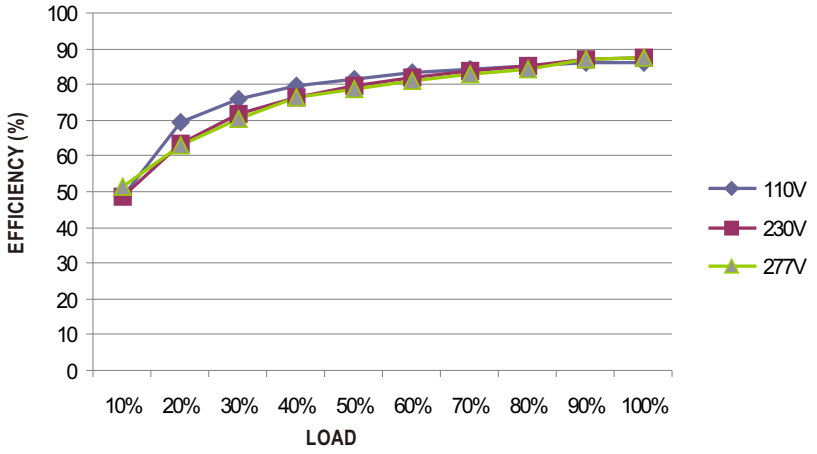


■ Power Factor Characteristic



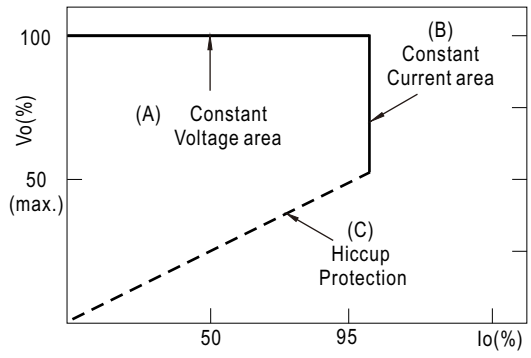
■ EFFICIENCY vs LOAD (48V Model)

LPF-25 series possess superior working efficiency that up to 87% can be reached in field applications.



■ DRIVING METHODS OF LED MODULE

There are two major kinds of LED drive method "direct drive" and "with LED driver".
A typical LED power supply may either work in "constant voltage mode (CV) or constant current mode (CC)" to drive the LEDs.
Mean Well's LED power supply with CV+ CC characteristic can be operated at both CV mode (with LED driver, at area (A) and CC mode (direct drive, at area (B).



Typical LED power supply I-V curve